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National Fish Strain Registry - Perch and Pike

Species Tables of Reported Populations and Broodstocks

FEDERAL PUBLICATION

USGS

National Fish Strain Registry - Perch and Pike (NFSR-PP)

Species Tables of Reported Populations and Broodstocks

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1. Introduction

Prior to 1974, fisheries managers and agencies had limited information on the genetic traits, performance characteristics, and habitat preferences of the fish populations they managed and little information on candidate populations being considered for introduction into waters under their jurisdiction. Managers had little choice but to use whatever broodstock source was available for the fish needed to stock fisheries within their areas of responsibility. Until recently, fish populations from favored sources were shipped throughout the country and indiscriminately stocked in many fisheries before the potential long term detrimental implications for resident natural fish populations were fully understood. The need for detailed information on all managed fish populations increased dramatically as managers became aware of the genetic consequences of mixing adapted and non-adapted populations. In the late 1970's, the U.S. Fish and Wildlife Service began to develop a database of genetic, performance, and management information on trout strains used by natural resource management agencies and aquaculture organizations throughout the United States. This database, named the **Trout Strain Registry (TSR),** was distributed to fisheries agencies and contributors in 1981. Information was limited to the five inland trout species: brook trout *(Salvelinus fontinalis),* brown trout *(Salmo trutta),* cutthroat trout *(Oncorhynchus clarki),* lake trout *(Salvelinus namaycush),* and rainbow trout (*Oncorhynchus mykiss*).

Three types of information are needed for fisheries managers to effectively identify the populations best suited for a given target fishery: (1) performance characteristics of the candidate populations, (2) characteristics of the target fishery, and (3) management objectives for the fishery. The goal of the TSR was to provide fisheries managers the population performance information, i.e., life history, genetic, reproductive, and behavioral characteristics, needed on all candidate populations to permit managers to make informed management choices for each fishery. The TSR was updated in 1994 and redistributed to management agencies and survey contributors as the **National Trout Strain Registry (NTSR).**

The concept of cataloging fish strain and broodstock information into a single database that is made available to fisheries managers, fish producers, and researchers, was expanded in 1994 to include most managed fish species in the United States. The database was renamed the **National Fish Strain Registry (NFSR)** with component databases (sub-registries) added for the different generic families of managed fishes. Current NFSR sub-registries and the generic fish families in each, are: (1) inland trout (*Salmonidae*), (2) catfish (*Ictaluridae*), (3) sturgeon (*Acipenseridae*) and paddlefish (*Polyodontidae*), and (4) perch (*Percidae*) and pike (*Esocidae*). Sub-registries are identified as the National Fish Strain Registry with the family common name(s) added as an extension. The perch and pike sub-registry is named, the **National Fish Strain Registry - Perch and Pike**, identified with the acronym **NFSR-PP**. Six species are included in the NFSR-PP (Table 1). The NFSR is a dynamic data set that is continuously updated and expanded as new information becomes available. The data is routinely collected, analyzed, and interpreted for each population and broodstock to provide the diversity of information needed by managers and aquaculturists (i.e., breeding history, life history, disease tolerance, stress tolerance, habitat preference, hatchery performance, and field performance) to make informed management decisions. The NFSR provides fisheries personnel the information needed to effectively identify the most suitable broodstock sources for each production and management program.

Commercial producers use the NFSR to identify the populations that effectively meet their production objectives. The NFSR is a joint project of the U. S. Geological Survey, Northern Appalachian Research Laboratory and the U.S. Fish and Wildlife Service, Division of Fish Hatcheries.

The NFSR-PP was designed in cooperation with a panel of fisheries experts from the U.S. Fish and Wildlife Service, state fish and game agencies, and commercial aquaculture organizations. Advisors identified the suite of traits (believed to be) most important to broodstock managers, culturists, field biologists, commercial aquaculturists and research scientists trying to match the performance characteristics of individual populations with production and management objectives. A national survey questionnaire was developed to request standardized data on managed broodstocks, domestic and wild, throughout the United States (Appendix A). Surveys were distributed to federal and state fisheries agencies, fisheries research facilities and commercial producers. Responses to questions requiring subjective ratings were coded to facilitate summarization and reporting (see Table 2 for code definitions). Survey information for populations of all reported species was compiled in the NFSR-PP with results for selected traits summarized in tables 3 - 5 of this manual.

2. NFSR-PP structure

We requested different types of information in the four (4) sections of the broodstock report (see complete survey form in Appendix A). Information requested in each section of the broodstock report is described below.

A. Population / Broodstock Identification Section - Information to uniquely identify the broodstock is developed and used to establish three database structural relationships:

   1) Species, population, and broodstock names - These names are used in combination to assign a unique identification number for each reported broodstock. This identification number allows multiple reports to be entered for a broodstock. When requested, the program retrieves the appropriate information from each record to compile and display a single broodstock or population summary report.

   2) Contact person - A specific person, usually the broodstock manager, is identified for each broodstock with name, title, address, telephone number, fax number, and e-mail address. This information allows NFSR users to directly contact this individual (contact person) to request additional information, as needed.

   3) Publications - Publications and "in-house" reports (title, author, publisher / issuer, and pagination) documenting the performance of the broodstock are listed in this section. Each person reporting on the performance of the broodstock may suggest publications.

B. Broodstock Section – Types of information recorded in this section include broodstock origin, genetic history, life history, reproduction, behavior, and performance characteristics. Broodstock managers provide the information in this section.

C. Hatchery / Captive Production Section - Hatchery managers from one or more hatcheries where fish from this broodstock have been reared in production lots provide this information. Data include: culture performance information, disease resistance, stress tolerance, and description of hatchery rearing conditions during the culture period.

D. Field Performance Section – Field biologists who worked with fish from this broodstock when planted or stocked into different management situations provide this informtion. Data include: fishery type stocked, post-stocking growth and survival, angling susceptibility, and stocking program relative success.

3. Basis for "relative ratings"

The species advisory committee recognized the impossibility of obtaining standardized trial data for hatchery and field performance traits due to diverse, uncontrolled variability in environmental parameters (temperature, water quality, elevation, location, etc.); among production situations (wild fish, hatchery raceways, farm ponds, etc.); and management situations (restoration, enhancement, recreational, food fish, etc.) in riverine and lacustrine habitats. As a result, we use a subjective rating system that is based on the past experience of broodstock managers, hatchery managers, and field biologists. Traits such as handling stress, disease resistance, and post-stocking performance were scored using a five-level rating scale (see Table 2 for rating systems and interpretations) based on their experience with the given population or broodstock relative to other populations or broodstocks in the same situation. Respondents were given the option of a "0" rating, if they had no experience with other populations in the same situation or had not experienced a particular disease in their facilities. Data based on subjective rating systems are identified as "relative ratings".

4. Description of tabled information

Tables in this manual have been extracted from the NFSR-PP to provide cooperators and contributing agencies a partial set of information covering the most commonly requested broodstock traits. This manual contains five tables organized by species listed alphabetically by species common name. Within species, populations and broodstocks are listed alphabetically by population name. Three types of tabular information are provided: Introductory Tables, Population Characterization Tables, and Appendices.

A. Introductory Tables - Information is provided to guide users in interpreting Population Characterization Tables. Introductory tables include:

Table 1. A list is provided of perch and pike species (scientific and common names) in the NFSR-PP with reported populations and broodstock performance information.

Table 2. A summary of the codes used in the NFSR-PP to identify individual traits and to assign the relative performance of each trait.

B. Population Characterization Tables - Information is reported and summarized on three (3) perch and three (3) pike species in Tables 3 to 5. Tables are organized alphabetically by species common name. Within species, populations are listed alphabetically by population name. When multiple broodstocks are reported for a population, broodstocks are listed alphabetically within population. Tabled information includes:

Table 3. List of reported populations and broodstocks for each species with name of contact person and their address, telephone number and fax number to facilitate requests for additional information on a specific broodstock.

Table 4. List of reported populations and broodstocks for each species with selected culture and field performance characteristics are shown for NFSR users to compare relative broodstock performances.

Table 5. List of reported populations and broodstocks for each species with management applications where the population / broodstock has been used and relative disease resistance ratings.

C. Appendices - Copies of NFSR-PP forms used by fisheries personnel to submit information for inclusion in the database:

Appendix A - National Fish Strain Registry - Perch / Pike (NFSR-PP): Survey of strains, populations, and broodstocks - Questionnaire provided to federal and state agencies, universities, and private growers to request information on wild, captive and domestic populations for inclusion in the NFSR-PP.

Appendix B - National survey of Percidae and Esocidae populations - new population / broodstock recommendation form - Form provided to NFSR-PP users, cooperators, and clients to identify and recommend additional new populations / broodstocks maintained or managed by other persons or agencies for inclusion in the National Fish Strain Registry - Perch / Pike.

5. Definition of traits and terms used in tables

Traits used to characterize populations / broodstocks in this manual are defined and described in the following discussion. Where trait values are calculated, formulas and calculation procedures are described.

Agency type - Business classification of the agency holding the broodstock: F = Federal government, S = State government, U = University, T = Tribal, C = Commercial or private.

Availability of broodstock - The reported availability (as eggs, fingerlings, or adults) to other agencies or individuals at the time the broodstock information was submitted or last updated. (See Table 2 for codes and definition of individual ratings).

Broodstock name - Name used by the broodstock facility to identify the broodstock. Names typically contain the population name or name of the hatchery where the broodstock is maintained. When a particular broodstock name is used at more than one location, the state abbreviation where the hatchery is located is appended to the broodstock name for state agencies and the hatchery name abbreviation is appended to the broodstock name for federal facilities.

Contact person - Person identified for each NFSR-PP population who can provide additional detailed information on that broodstock; usually the individual who reported the broodstock information or the broodstock station manager. In cases where the named individual is no longer at the broodstock location, the current facility manager is the designated contact person.

Culture type - Fish culture activities are classified into two basic types: I = Intensive culture and 2 = Extensive culture.

Disease resistance rating (relative rating) - Disease resistance was scored for three diseases: Bacterial Gill Disease (BGD), Columnaris (COL), and Costia (COS), using a subjective five step scale to describe the performance of the particular population relative to other populations the reporter had worked with in the past. (See Table 2 for definition of individual ratings).

Fishery Type - Fisheries are classified into five (5) categories: R = Riverine, L = Lacustrine, E - Eutrophic, O - Oligotrophic, and TW = tail waters.

Hatchability (percentage) - Mean percent hatch of egg lots throughout the entire spawning season. Percentages were measured from spawn through hatching using the formula: % hatch = (number hatched fry / number eggs spawned) X 100.

Hybrid Crosses - Management application where the population / broodstock has been used successfully to produce hybrid progeny when mated to individuals from another population or species. The management objective is production of hybrid progeny.

Management applications - Managers were asked to identify management situations where fish from this broodstock were stocked and to rate their general performance in each situation as, "well" adapted or "poorly" adapted. Management applications include: supplementation stocking in riverine and lacustrine situations, restoration stocking in riverine and lacustrine situations, tail waters, eutrophic lakes, oligotrophic lakes, intensive culture, extensive culture, and production of hybrids.

Origin of broodstock - The reported "original" source where the current broodstock evolved (body of water or drainage) or was developed (culture facility).

Population name - Fish populations are usually given the name of the body of water (river, lake, drainage, etc.) where the population originated (evolved) or the earliest known culture facility where it was developed. In cases, where the managers did not know the origin of a population or it had been retained in a single culture facility for an extended period of time, the name of that culture facility was assigned. Populations originating from wild sources were assigned the name of the originating body of water, irrespective of past history of introductions from other sources.

Stress tolerance (relative rating) – Stress tolerance, the ability of fish to withstand and survive different kinds of stress during culture, was measured for four stress categories (crowding, fluctuating temperature, handling, and transportation). Each stress category was measured using a five-step scale to describe the performance of the particular population relative to other populations the respondent had worked with in the past. (See below -Tolerance to crowding, Tolerance to fluctuating temperature, Tolerance to handling stress, and Tolerance to transportation).

Survival to fingerling (percentage) - Percent of fish surviving to the fingerling stage (approximately 90 days of age). Survival was measured as the number of fingerlings on hand divided by the number of fish hatched, multiplied by 100.

Tolerance to crowding (relative rating) - Crowding tolerance, the ability to survive and grow at higher fish densities than other populations, was measured using a five-step scale to describe the performance of the particular population relative to other populations the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to fluctuating temperature (relative rating) - Tolerance to temperature fluctuations (greater than 10^0 F) was measured using a five-step scale to describe the performance of the particular population relative to other populations the reporter had worked with in the past (see Table 2 for definitions).

Tolerance to handling stress (relative rating) -Tolerance to handling stress is the ability of management to work with the fish at different life stages with minimum mortality and setback in growth rate. Handling stress was measured using a five-step scale to describe the performance of the particular population relative to other populations the respondent had worked with in the past. (see Table 2 for definition of individual ratings).

Tolerance to transportation (relative rating) - Transportation stress is the composite of crowding, handling, reduced oxygen, and higher nitrogen water conditions associated with moving fish from one location to another. Tolerance to transportation stress was measured using a five-step scale to describe the performance of the particular population relative to other populations the reporter had worked with in the past (see Table 2 for definition).

6. Using the NFSR-PP tables

The tables in this document are organized into sections, a separate section for each species. Species are listed in alphabetic order by species common name. Within species sections, populations are listed alphabetically and broodstocks are nested alphabetically within population name.

Tables may be used to find information on a single population or broodstock or to identify populations or broodstocks with specific desired traits.

A. Steps to find information on a specific population or broodstock in Tables 3 to 5:

1) Determine table of interest based on category of information desired i.e., stress tolerance, origin, availability, past management applications, or disease resistance. Go to that table.
2) Find the target species within the table.
3) Find the target population name within species.
4) Find the targeted broodstock name within population.
5) Review information. If additional information is desired, go to Table 3 (and the same Species Section) to identify the contact person who can provide the desired information.

B. Steps to identify populations or broodstocks with specific desired traits among reported populations / broodstocks in Tables 3 - 5.

1) Determine the trait or traits of interest.
2) Go to the appropriate table where each trait of interest is located.
3) Go to the appropriate Species Section.
4) Determine the level of performance desired for each selected trait.
5) Scan table values for the trait(s) of interest and record each broodstock that meets the desired performance level.
6) Identify 1 - 5 broodstocks that "best" meet all criteria
7). Go to Table 3 (and the same Species Section) to identify the contact person for each selected broodstock. Contact these persons to obtain additional information and to determine current availability of the broodstock.

7. Procedure for updating the NFSR-PP information

The mechanism for updating population information was built into the NFSR-PP by the national survey format. Collectively, contact persons identified in the survey process form a network of the individuals and organizations who manage and culture perch and pike populations. This is also the network of managers who will have the new data needed to annually update the information on each reported population / broodstock. They also have access to the newly published literature and agency reports on these populations that are essential to the confirmation of the initial subjective or incomplete data.

Fisheries managers are requested to submit data to the NFSR-PP on populations / broodstocks they culture or manage using the blank form "National Fish Strain Registry - Perch / Pike (NFSR-PP)" (Appendix A). Completed surveys are mailed to the address provided on the form. Managers may also wish to recommend other specific populations or broodstocks for inclusion in the NFSR-PP. A population / broodstock recommendation form is provided for this purpose in Appendix B. To recommend a particular population or broodstocks for inclusion in the NFSR-PP, you need to complete the requested information (population name, location where the fish are reared, and a contact person with their address and telephone number) and mail to the address provided in the instructions. When the recommendation form is received, we will contact that person and request the needed information. When the information is received, the population / broodstock will be added to the database.

8. NFSR-PP distribution

The NFSR-PP application program was written using R:Base 2000 and Tango 2000 software by R:Base Technologies, Inc. (** no endorsement of this product by the U.S. Government is given or implied). The NFSR-PP was designed, developed, and documented by Harold L. Kincaid and Leslie J. Mengel, USGS, Northern Appalachian Research Laboratory. NFSR-PP information is available to all segments of the fisheries industry -- federal and state management agencies, universities, private producers/growers and aquaculturists -- seeking information on individual fish populations or broodstocks. The NFSR-PP is available on the Internet at http://nfsr/er/usgs.gov. Additional information about the National Fish Strain Registry can be obtained by writing to:

U.S. Geological Survey
Leetown Science Center
Northern Appalachian Research Laboratory
ATTN: NFSR-PP, Library
R.D. 4, Box 63
Wellsboro, PA 16901

Table 1. Perch (Family - Percidae) and pike (Family - Esosidae) species reported in National Fish Strain Registry - Perch and Pike

Family	Scientific name	Common name
Perches	*Perca flavescens*	Yellow perch
	Stizostedion canadense	Sauger
	Stizostedion vitreum	Walleye
Pikes	*Esox lucius*	Northern pike
	Esox masquinongy	Muskellunge
	Esox niger	Chain pickerel

Table 2. Codes used to classify reported traits of Percidae and Esosidae species.

Category	Code	Code Interpretation
Broodstock Availability	Y (YES)	Broodstock is available (contact broodstock manager)
	N (NO)	Broodstock is not available
	L (Limited)	Broodstock may be available in certain situations (Contact broodstock manager for more information)
	U	Unknown
Agency/ Organization Type	F	Agency of federal government
	S	Agency of state government
	T	Indian tribe
	U	University
	C	Private organization or commercial producer
Stress Resistance Relative Rating	0	Unknown
	1	Resistance to specified stress is "Poor"
	2	Resistance to specified stress is "Below average"
	3	Resistance to specified stress is "Average"
	4	Resistance to specified stress is "Above average"
	5	Resistance to specified stress is "Superior"
Disease Resistance Relative Rating	0	Unknown
	1	Resistance to specified disease is "Very Susceptible"
	2	Resistance to specified disease is "Susceptible "
	3	Resistance to specified disease is "Average"
	4	Resistance to specified disease is "Resistant"
	5	Resistance to specified disease is "Very Resistant"
Disease Codes	BGD	Bacterial Gill Disease
	COL	Columnaris
	COS	Costia
Relative Rating Post-stocking Performance Traits	0	Unknown
	1	Performance of trait is "Poor"
	2	Performance of trait is " Below average"
	3	Performance of trait is "Average"
	4	Performance of trait is "Above average"
	5	Performance of trait is "Superior"

Table 3. Populations reported to the National Fish Strain Registry - Perch and Pike (NFSR-PP) with persons to contact for additional information.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Chain pickerel				
Duck Creek	Duck Creek - W	Mark F Boone	Missouri, Dept of Conservation, 2302 County Park Drive, Cape Girardeau, MO 63701	Ph. 573-290-5730 Fax 573-290-5736
Kentucky	Kentucky	Paul Rister	KY Dept. Fish and Wildlife Resources Murray, KY 42071	Ph. 270-753-3886 Fax 270-759-5300
Louisiana	Louisiana - W	Robert C Gough	LA Department Wildlife & Fisheries P.O. Box 609, Forest Hill, LA 71430	Ph. 318-748-6914 Fax 318-748-6930
Muskellunge				
Burke Lake	Burke Lake	Eugene Gwathmey	VA Dept. Game and Inland Fisheries 910 Thomas Jefferson Road, Forest, VA 24551	Ph. 804-525-7522 Fax 804-525-7720
French Broad River	French Broad -W	Mallory G Martin	Marion SFH, Rt 6, Box 685 Marion, NC 28752	Ph. 828-659-3324 Fax 828-652-3279
Hazel Creek Lake	Hazel Creek	Dave Neuswanger	MO, Dept of Conservation 2500 S. Halliburton, Kirksville, MO 63501	Ph. 660-785-2420 Fax 66.-785-2553
Inland Lakes	Inland Lakes	Dana Schmidt	7487 State Route 124 Latham, OH 45646	Ph. 740-493-2717 Fax 740-493-3382
Kentucky	Kentucky	Lewis Kornman	KY Dept Fish & Wildlife, Minor E. Clark SFH 120 Fish Hatchery Road, Morehead, KY 40351	Ph. 606-784-6872 Fax 606-784-1176
New River	New River - W	Mallory G Martin	Marion SFH R. R. 6, Box 685, Marion, NC 28752	Ph. 828-659-3324 Fax 828-652-3279
Nolichucky River	Nolichucky River - W	Mallory G Martin	Marion SFH Rt 6, Box 685, Marion, NC 28752	Ph. 828-659-3324 Fax 828-652-3279

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Ohio River	Chautauqua Lake	Richard T Colesante	NYDEC, Oneida SFH P.O Box 303, Constantia, NY 13044	Ph. 315-623-7311 Fax 315-623-7531
Pennsylvania	Pennsylvania	Eugene Gwathmey	VA Dept. Game and Inland Fisheries 910 Thomas Jefferson Road, Forest, VA 24551	Ph. 804-525-7522 Fax 804-525-7720
Pomme de Terre Reservoir	Pomme de Terre - W	Ron Dent	Missouri, Dept of Conservation, P.O Box 268, 2010 S. 2nd Street, Clinton, MO 64735	Ph. 660-885-6981 Fax 660-885-5038
Spirit Lake-IL	Spirit Lake	Steve Krueger	Jake Wolf Memorial Fish Hatchery 25410 N. Fish Hatchery Road, Topeka, IL 61567	Ph. 309-968-7531 Fax 309-968-6017
St. Lawrence River	St. Lawrence	John M Farrell	SUNY - EFC Dept. Environmental & Forest Biology, 253 Illick Hall, Syracuse, NY 13210	Ph. 315-470-6990 Fax 315-470-6934
Tiger musky	Introduced	Robert Wiley	WY, game and Fish Dept. 5400 Bishop Blvd, Cheyenne, WY 82006	Ph. 307-777-4559 Fax 307-777-4611
Wisconsin	Wisconsin-W	Wally Jorgenson	IA, Dept. Fish and Wildlife Division 122 252nd Avenue, Spirit Lake, IA 51360	Ph. 712-336-1840 Fax 712-336-0921
Northern pike				
Aleknagik Lake	Aleknagik Lake	George Naughton	AK Dept Fish & Game, Div. Sport Fish P. O. Box 230, Dillingham, AK 99576	Ph. 907-842-2427 Fax 907-842-5937
Arizona	Scott Reger	AZ Game and Fish Dept, Region II 3500 South Lake Mary Rd, Flagstaff, AZ 86001		Arizona Ph. 520-774-5045 Fax
Connecticut River	Connecticut	Eric Schluntz	CT Dept. Environmental Protection 209 Hebron Road, Marlborough, CT 06447	Ph. 860-295-9523 Fax 860-344-2941
Mansfield Hollow Reservoir	Mansfield Hollow	Eric Schluntz	CT Dept. Environmental Protection 209 Hebron Road, Marlborough, CT 06447	Ph. 860-295-9523 Fax 860-344-2941

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Minto Flats	Yukon	Dave Rutz	AK Dept. Fish & Game, Sport Fish Div. 1800 Glenn Highway, Suite 4 Palmer, AK 99645-6736	Ph. 907-746-6329 Fax
Mississippi River	Mississippi	Scott Gritters	P.O. Box 250 Guttenberg, IA 52052	Ph. 319-252-1156 Fax 319-252-2469
Mississippi River	Mississippi	David L Moeller	Manchester SFH 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
Northern Idaho	Northern Idaho -W	Thomas S Frew	Idaho Fish and Game, 600 South Walnut, P.O. Box 15, Boise, ID 83707-0025	Ph. 208-334-3791 Fax 208-334-2114
Pennsylvania	Pennsylvania	Eugene Gwathmey	VA Dept. Game and Inland Fisheries 910 Thomas Jefferson Road, Forest, VA 24551	Ph. 804-525-7522 Fax 804-525-7720
Red Lake	Red Lake	Tim Barry	CT DEP, Western HQ, 230 Plymouth Road, RFD #4, Harwinton, CT 06791	Ph. 860-485-0226 Fax 860-485-1638
Spring Lake -IL	Spring Lake	Steve Krueger	Jake Wolf Memorial Fish Hatchery 25410 N. Fish Hatchery Road, Topeka, IL 61567	Ph. 309-968-7531 Fax 309-968-6017
Taal Lake	Taal Lake - H	Sally Tadda	W3902 Sandy Lane Owen, WI 54460	Ph. 715-229-4372 Fax
Wyoming	Introduced	Robert Wiley	WY, game and Fish Dept. 5400 Bishop Blvd, Cheyenne, WY 82006	Ph. 307-777-4559 Fax 307-777-4611
Sauger				
Arkansas River	ARSAUG	Steven Spade	Byron SFH Rt, 1, Box 35, Byron, OK 73722-9528	Ph. 580-474-2663 Fax 580-474-2664

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
French Broad	Douglas TW	Mike Smith	Eagle Bend SFH 1207 Seivers Blvd., Clinton, TN 37716	Ph. 423-457-5135 Fax
Illinois River	Illinois R.	Ed Hansen	LaSalle Fish Hatchery 2649 N. 21st. Road, Marseilles, IL 61341	Ph. 815-357-6986 Fax 815-357-1525
Illinois River	Illinois River-W	Ron Brooks	Southern Illinois Univ.. - Carbondale Mail Code 6511, Carbondale, IL 62901	Ph. 618-453-6072 Fax
Kentucky	Kentucky	Jim R Axon	KY Dept. Fish and Wildlife Resources 1 Game Farm Road, Frankfort, KY 40601	Ph. 502-564-7109 Fax 502-564-4159
Louisiana	Louisiana - W	Robert C Gough	LA Department Wildlife & Fisheries P.O. Box 609, Forest Hill, LA 71430	Ph. 318-748-6914 Fax 318-748-6930
Mississippi River	Mississippi	David L Moeller	Manchester SFH 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
Tennessee River	Tennessee River	Mike Smith	Eagle Bend SFH 1207 Seivers Blvd., Clinton, TN 37716	Ph. 423-457-5135 Fax
Wyoming	Native	Robert Wiley	WY, game and Fish Dept. 5400 Bishop Blvd, Cheyenne, WY 82006	Ph. 307-777-4559 Fax 307-777-4611
Walleye				
Arizona	Arizona - W	Larry Riley	Arizona Game and Fish Depart., 2221 W. Greenway Road, Phoenix, AZ 85023-4399	Ph. 620-789-3258 Fax
Bear River	Bear River - W	Thomas S Frew	Idaho Fish and Game, 600 South Walnut, P.O. Box 15, Boise, ID 83707-0025	Ph. 208-334-3791 Fax 208-334-2114
Black River	Black River - W	Jeff Koppelman	MO, Dept of Conservation 1110 S. College Avenue, Columbia, MO 65201	Ph. 573-882-9880 Fax 573-882-4517

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Bonnie Reservoir-CO	Bonnie Reservoir	Charles Munger	Texas Parks and Wildlife Dept. PO Box 835, Canyon, TX 79015	Ph. 806-655-4341 Fax 806-655-8104
Bull Shoals Reservoir	Bull Shoals - W	Jeff Koppelman	MO, Dept of Conservation 1110 S. College Avenue, Columbia, MO 65201	Ph. 573-882-9880 Fax 573-882-4517
Center Hill Lake	Center Hill	Lyle Mason	Normandy SFH 380 Huffman Road, Normandy, TN 37360	Ph. 931-857-3417 Fax
Chain-o-Lakes	Chain-o-Lakes-W	Frank Jakubicek	110 James Road Spring Grove, IL 60081	Ph. 815-675-2319 Fax 815-675-0103
Columbia River	Columbia River - W	Kin Daily	Oregon Dept Fish & Wildlife P.O. Box 59, Portland, OR 97201	Ph. Fax
Dale Hollow Lake	Dale Hollow	Anders Myha	464 Industrial Blvd. Crossville, TN 38555	Ph. 931-484-9571 Fax
Fox Chain	Fox Chain-W	Frank Jakubicek	110 James Road Spring Grove, IL 60081	Ph. 815-675-2319 Fax 815-675-0103
Gulf Coast	Gulf Coast	Duane Shaw	MS Dept W,F & P, Fisheries Division ShoeMaker Hall, University, MS 38677	Ph. 601-234-1437 Fax
Inland Walleye	Inland Walleye	Pat Keyes	57199 Seneca Dam Road Senecaville, OH 43780	Ph. 740-685-5541 Fax 740-685-8952
Lake Burton	Lake Burton - W	Anthony Rabern	Lake Burton SFH 3695 Highway 197, Clarkesville, GA 30523	Ph. 706-947-3112 Fax 706-947-1325
Lake Erie	Lake Erie	Morton Pugh	01735 Feeder Road St. Marys, OH 45885	Ph. 419-394-5170 Fax 419-394-6637

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Lake James	Catawba River - W	Mallory G Martin	Marion SFH Rt 6, Box 685, Marion, NC 28752	Ph. 828-659-3324 Fax 828-652-3279
Lake Meredith	Lake Meredith	Joe Kraai	Texas Parks and Wildlife 3407 S. Chadbounne, San Angelo, TX 76903	Ph. 915-651-4846 Fax 915-651-4752
Lake Nottely	Lake Nottely - W	Reggie Weaver	GA Dept of Natural Resources 2150 Dawsonville Hwy, Gainesville, GA 30501	Ph. 770-535-5498 Fax 770-535-5953
Lake Oahe	Lake Oahe Wae	Jerry Broughton	RR 1, Box 22a Waubay, SD 57273	Ph. 605-947-4657 Fax 605-947-4733
Lake of the Ozarks	Ozarks	Jeff Koppelman	MO, Dept of Conservation 1110 S. College Avenue, Columbia, MO 65201	Ph. 573-882-9880 Fax 573-882-4517
Lake Pymatuning	Great Lakes	Micheal c Hearn	Minor E. Clark SFH 120 Fish Hatchery Road, Moorehead, KY 40351	Ph. 606-784-6872 Fax 606-784-1176
Liberty Resevoir	Liberty	Ed Enamait	Maryland Dept Natural Resources 10932 Putman Road, Thurmont, MD 21788	Ph. 301-898-9724 Fax 301-898-5404
Missisquoi River	Missisquoi	Chet MacKenzie	317 Sanatorium Road, West wing Pittsford, VT 05763	Ph. 802-483-2172 Fax
New York	CanWal	Steven Spade	Byron SFH Rt, 1, Box 35, Byron, OK 73722-9528	Ph. 580-474-2663 Fax 580-474-2664
Norfork River	Norfork - W	Jeff Koppelman	MO, Dept of Conservation 1110 S. College Avenue, Columbia, MO 65201	Ph. 573-882-9880 Fax 573-882-4517
Norris Lake	Norris - W	Mike Smith	Eagle Bend SFH 1207 Seivers Blvd., Clinton, TN 37716	Ph. 423-457-5135 Fax

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Oneida Lake	Oneida Lake	Richard T Colesante	NYDEC, Oneida SFH P.O Box 303, Constantia, NY 13044	Ph. 315-623-7311 Fax 315-623-7531
Potomac River	Potomac	Ed Enamait	Maryland Dept Natural Resources 10932 Putman Road, Thurmont, MD 21788	Ph. 301-898-9724 Fax 301-898-5404
Pretty boy Reservoir	Prettyboy	Ed Enamait	Maryland Dept Natural Resources 10932 Putman Road, Thurmont, MD 21788	Ph. 301-898-9724 Fax 301-898-5404
Rock Castle River	Rock Castle	John Williams	KY Dept. Fish & Wildlife Res., 2073 North Hwy. 25 West, Williamsburg, KY 40769	Ph. 606-549-1332 Fax 606-549-9021
Spirit Lake	Spirit Lake - W	Mike Mason	IA Dept Natural Resources ,Fish & Wildlife Div., Wallace State Bldg., Des Moines, IA 50319	Ph. 515-281-6072 Fax 515-281-6794
Stockton Reservoir	Stockton -W	Jeff Koppelman	MO, Dept of Conservation 1110 S. College Avenue, Columbia, MO 65201	Ph. 573-882-9880 Fax 573-882-4517
Winooski River	Winooski	Chet MacKenzie	317 Sanitorium Road, West wing Pittsford, VT 05763	Ph. 802-483-2172 Fax
Wyoming	Introduced fish	Robert Wiley	WY, game and Fish Dept. 5400 Bishop Blvd, Cheyenne, WY 82006	Ph. 307-777-4559 Fax 307-777-4611
Yellow perch				
Arizona	Arizona - W	Scott Reger	AZ Game & Fish Dept, Region II 3500 South Lake Mary Rd, Flagstaff, AZ 86001	Ph. 520-774-5045 Fax
Buttner	Brockport University	Jim Kennedy	Willow Pond Aqua Farms 171 Telyea, Canandaigua, NY 14424	Ph. 716-396-2753 Fax 716-394-0812
Charette Lake NM	Greenbelt	Charles Munger	Texas Parks and Wildlife Dept. PO Box 835, Canyon, TX 79015	Ph. 806-655-4341 Fax 806-655-8104

Table 3. Continued.

Population	Broodstock	Contact name	Organization / Address	Phone / FAX
Chesapeake Bay	Chesapeake Bay	Edward J Webb III	Maryland DNR, 301 Marine Academy Drive, Stevensville, MD 21666	Ph. 410-643-6776 Fax 410-643-4136
Columbia River	Columbia River -W	Kin Daily	Oregon Dept Fish & Wildlife P.O. Box 59, Portland, OR 97201	Ph. Fax
Idaho	Idaho - W	Thomas S Frew	Idaho Fish and Game, 600 South Walnut, P.O. Box 15, Boise, ID 83707-0025	Ph. 208-334-3791 Fax 208-334-2114
Kentucky Lake	Kentucky Lake	Paul Rister	KY Dept. Fish and Wildlife Resources 30 Scenic Acres Drive, Murray, KY 42071	Ph. 270-753-3886 Fax 270-759-5300
Midwest Fish & Crayfish	Midwest yellow perch	John Reynolds	HC 87, Box 9110 Merrifield, MN 56465	Ph. 218-765-3030 Fax
Piney Run Reservoir	Piney Run	Ed Enamait	Maryland Dept Natural Resources 10932 Putman Road, Thurmont, MD 21788	Ph. 301-898-9724 Fax 301-898-5404
Spirit Lake	Spirit Lake -W	Thomas W Gayzork	IA, Dept Fish and Wildlife Division 122 252nd Avenue, Spirit Lake, IA 51360	Ph. 712-336-1714 Fax 712-336-0921
St. Marys	St. Marys	Morton Pugh	01735 Feeder Road St. Marys, OH 45885	Ph. 419-394-5170 Fax 419-394-6637
Wyoming	Introduced	Robert Wiley	WY, game and Fish Dept. 5400 Bishop Blvd, Cheyenne, WY 82006	Ph. 307-777-4559 Fax 307-777-4611

Table 4. Population origin and selected cultural and field performance characteristics for reported broodstocks.

Population	Broodstock	Avail Ability [1/]	Agency type [2/]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3/]			
							Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Chain pickerel										
Duck Creek	Duck Creek - W	N	S	Duck Creek Conservation Area, Pool #1	--	--	--	--	--	--
Kentucky	Kentucky	N	S	Kentucky waters	--	--	--	--	--	--
Louisiana	Louisiana - W	N	S	Wild fish	--	--	--	--	--	--
Muskellunge										
Burke Lake	Burke Lake	L	S	Various sources in PA, MN, and NJ	--	--	--	--	--	--
French Broad River	French Broad -W	N	S	French Broad River	--	--	--	--	--	--
Hazel Creek Lake	Hazel Creek	L	S	Linesville fish Culture Station (PA)	--	--	--	--	--	--
Inland Lakes	Inland Lakes	L	S	Clear Fork Reservoir	47	75	3	3	4	3
Kentucky	Kentucky	N	S	Kentucky, Red River, Tygarts Creek, Licking River, North Fork Creek, North Fork Triplett Creek, and Beaver Creek.	--	--	--	--	--	--
New River	New River - W	N	S	New River, NC	--	--	--	--	--	--
Nolichucky River	Nolichucky River - W	N	S	Nolichucky River	--	--	--	--	--	--
Ohio River	Chautauqua Lake	L	S	Chautauqua Lake	50	65	--	--	--	--

Table 4. Continued.

Population	Broodstock	Avail Ability [1]	Agency type [2]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3] Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Pennsylvania	Pennsylvania	N	S	PA Fish and Boat Commission	--	--	--	--	--	--
Pomme de Terre Reservoir	Pomme de Terre - W	N	S	Pomme de Terre Reservoir	--	--	--	--	--	--
Spirit Lake-IL	Spirit Lake	L	S	Spring Lake, Illinois	50	60	1	3	2	2
St. Lawrence River	St. Lawrence	L	U	St. Lawrence River at Thousand Islands	60	--	4	3	3	3
Tiger musky	Introduced		S		--	--	--	--	--	--
Wisconsin	Wisconsin-W	Y	S	Spirit Lake	40	60	--	--	--	--
Northern pike										
Aleknagik Lake	Aleknagik Lake	N	S	Aleknagik Lake, Wood River Lakes system, Alaska	--	--	--	--	--	--
Arizona	Arizona	N	S	Misc Federal & Commercial sources	--	--	--	--	--	--
Connecticut River	Connecticut	L	S	Connecticut River	--	--	--	--	--	--
Mansfield Hollow Reservoir	Mansfield Hollow	L	S	Connecticut River and Bantam Lake	--	--	--	--	--	--
Minto Flats	Yukon	N	S	Illegal introduction from Minto Flats in the Fairbanks area.	--	--	--	--	--	--
Mississippi River	Mississippi	L	S	Mississippi River	77	--	--	--	--	--

Table 4. Continued.

Population	Broodstock	Avail Ability [1/]	Agency type [2/]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3/]			
							Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Mississippi River	Mississippi	Y	S	Mississippi River pools 10 and 11	--	--	--	--	--	--
Northern Idaho	Northern Idaho -W	N	S	Unknown - (illegal stocking)	--	--	--	--	--	--
Pennsylvania	Pennsylvania	N	S	Pennsylvania	--	--	3	3	4	4
Red Lake	Red Lake	N	S	Red Lake, Minnesota	--	--	3	5	5	4
Spring Lake -IL	Spring Lake	L	S	Spring Lake, Illinois	30	95	2	3	2	2
Taal Lake	Taal Lake - H	Y	P	Taal Lake Hatchery	--	--	--	4	4	--
Wyoming	Introduced	U	S	Unknown	--	--	--	--	--	--
Sauger										
Arkansas River	ARSAUG	N	S	Arkansas River	55	--	3	3	3	3
French Broad	Douglas TW	N	S	French Broad River/Reservoir	--	--	--	--	--	--
Illinois River	Illinois R.	Y	S	Illinois River - Peoria Pool	63	--	3	3	3	3
Illinois River	Illinois River-W	Y	U	Illinois River	40	--	--	--	--	--
Kentucky	Kentucky	L	S	Ohio R., licking R., Big Sandy R, Tennessee River, etc.	--	--	--	--	--	--
Louisiana	Louisiana - W	N	S	Wild fish	--	--	--	--	--	--
Mississippi River	Mississippi	L	S	Mississippi River	--	--	--	--	--	--

Table 4. Continued.

Population	Broodstock	Avail Ability [1]	Agency type [2]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3]			
							Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Tennessee River	Tennessee River	N	S	Tennessee River and TN Reservoirs	--	--	--	--	--	--
Wyoming	Native	N	S	Native in the state of Wyoming	--	--	--	--	--	--
Walleye										
Arizona	Arizona - W	N	S	Several federal, state and private sources	--	--	--	--	--	--
Bear River	Bear River - W	N	S	Multiple sources	--	--	--	--	--	--
Black River	Black River - W	N	S	Black River (MO)	--	--	--	--	--	--
Bonnie Reservoir-CO	Bonnie Reservoir	Y	S		--	--	--	--	--	--
Bull Shoals Reservoir	Bull Shoals - W	N	S	Bull Shoals Reservoir	--	--	--	--	--	--
Center Hill Lake	Center Hill	N	S	Center Hill Lake	--	--	--	--	--	--
Chain-o-Lakes	Chain-o-Lakes-W	N	S	Chain-o-Lakes-W	--	--	--	--	--	--
Columbia River	Columbia River - W	N	S	Columbia River - wild populations	--	--	--	--	--	--
Dale Hollow Lake	Dale Hollow	N	S	Dale Hollow Lake	--	--	--	--	--	--
Fox Chain	Fox Chain-W	N	S	Fox Chain-o-Lakes	63	10	--	3	4	
Gulf Coast	Gulf Coast	L	S	Tombigbee River and tributaries	--	--	2	2	3	3

Table 4. Continued.

Population	Broodstock	Avail Ability [1/]	Agency type [2/]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3/]			
							Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Inland Walleye	Inland Walleye	L	S	Inland reservoirs (7)	70	--	3	3	3	3
Lake Burton	Lake Burton - W	N	S	lake Burton, Lake Seed, and Lake Rabun (GA)	--	--	--	--	--	--
Lake Erie	Lake Erie	Y	S	Lake Erie	80	--	3	--	3	3
Lake James	Catawba River - W	N	S	Lake James and Catawba River	--	--	--	--	--	--
Lake Meredith	Lake Meredith	N	S	Various states: CO, IA, etc.	--	--	--	--	--	--
Lake Nottely	Lake Nottely - W	N	S	Lake Nottely	--	--	--	--	--	--
Lake Oahe	Lake Oahe Wae	L	S	Unknown	50	65	3	3	3	3
Lake of the Ozarks	Ozarks	L	S	Lake of the Ozarks	--	--	--	--	--	--
Lake Pymatuning	Great Lakes	L	S	Senecaville SFH and Lake Pymaturing	60	90	4	3	3	3
Liberty Reservoir	Liberty	N	S	Liberty Reservoir (Chesapeake watershed)		--	--	--	--	--
Missisquoi River	Missisquoi	L	S	Missisquoi River	--	--	--	--	--	--
New York	CanWal	Y	S		--	50	3	3	3	3
Norfork River	Norfork - W	Y	S	Norfork River	--	--	--	--	--	--
Norris Lake	Norris - W	N	S	Norris Lake, wild population	--	--	--	--	--	--

Table 4. Continued.

Population	Broodstock	Avail Ability [1]	Agency type [2]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3] Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Oneida Lake	Oneida Lake	L	S	Oneida Lake	64	75	--	--	--	--
Potomac River	Potomac	N	S	Potomac River	--	--	--	--	--	--
Prettyboy Reservoir	Prettyboy	N	S	Prettyboy Reservoir	--	--	--	--	--	--
Rock Castle River	Rock Castle	N	S	Rock Castle River	--	--	--	--	--	--
Spirit Lake	Spirit Lake - W	Y	S	Spirit Lake Iowa	70	--	4	2	3	3
Stockton Reservoir	Stockton -W	L	S	Stockton Reservoir	--	--	--	--	--	--
Winooski River	Winooski	N	S	Winooski River (tributary of Lake Champlain)	--	--	--	--	--	--
Wyoming	Introduced fish		S		--	--	--	--	--	--
Yellow perch										
Arizona	Arizona - W	N	S	Stoneman Lake	--	--	--	--	--	--
Buttner	Brockport University	Y	P	Brockport State University (NY))	--	--	3	4	3	4
Charette Lake	Greenbelt	N	S	Charette Lake, New Mexico	--	--	--	--	--	--
Chesapeake Bay	Chesapeake Bay	N	S	Sassafras River and Bush River	--	--	3	3	3	3
Columbia River	Columbia River -W	N	S	Columbia River -W	--	--	--	--	--	--

Table 4. Continued.

Population	Broodstock	Avail Ability [1/]	Agency type [2/]	Origin	Hatch ability (%)	Survival to finger-ling (%)	Stress Tolerance [3/]			
							Hand ling	Crowd ing	Trans port ation	Temp-erature fluctu-ation
Idaho	Idaho - W	N	S	Unknown	--	--	--	--	--	--
Kentucky Lake	Kentucky Lake	N	S	Upper Tennessee River (Stocked from Unknown source)	--	--	--	--	--	--
Midwest Fish & Crayfish	Midwest yellow perch	Y	P	Vic's Bait - Glenwood, MN	--	--	4	4	4	4
Piney Run Reservoir	Piney Run	N	S	Piney Run Reservoir, Chesapeake - Bay watershed	--	--	--	--	--	--
Spirit Lake	Spirit Lake -W	N	S	Spirit Lake (Dickerson county, Iowa)	--	--	--	--	--	--
St. Marys	St. Marys	L	S	Lake Erie	--	--	3	3	3	3
Wyoming	Introduced		S		--	--	--	--	--	--

[1/] Availability codes: Y - Yes broodstock is available, N - No broodstock is not available, L - Limited availability contact broodstock manager, and U - Unknown availability contact broodstock manager

[2/] Agency type codes: F = Agency of federal government, S = Agency of state government, T = Indian tribe, U = University, and C = Private organization or commercial producer

[3/] Stress tolerance (Resistance Relative Rating) codes: 0 = Unknown, 1 = Poor, 2 = Below average, 3 = Average, 4 = Above average, and 5 = Superior.

Table 5 Management applications where reported populations have been used successfully.

Population	Broodstock	Management application [1/]											
		Hybrid crosses	Culture type [2/]		Supplementation [3/]		Restoration [3/]		Fishery type			Disease resistance [4,5/]		
			I	E	R	L	R	L	Tailwaters	Eutrophic	Oligotrophic	BGD	COL	COS
Chain pickerel														
Duck Creek	Duck Creek - W	-	-	Y	-	Y	-	Y	-	Y	-	-	-	-
Muskellunge														
Burke Lake	Burke Lake	-	-	-	-	-	-	-	-	-	-	-	-	3
French Broad River	French Broad -W	-	-	-	Y	-	Y	-	-	-	-	-	-	-
Hazel Creek Lake	Hazel Creek	-	-	-	-	Y	-	-	-	-	-	-	2	-
Inland Lakes	Inland Lakes	-	Y	Y	-	Y	-	-	-	Y	-	4	2	-
Kentucky	Kentucky	-	Y	Y	Y	Y	Y	-	Y	-	Y	-	-	
New River	New River - W	-	-	-	Y	-	Y	-	-	-	-	-	-	-
Nolichucky River	Nolichucky River - W	-	-	-	Y	-	Y	-	-	-	-	-	-	-
Ohio River	Chautauqua Lake	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-
Pennsylvania	Pennsylvania	-	-	-	-	-	-	-	-	-	-	3	-	-
Pomme de Terre Reservoir	Pomme de Terre - W	-	-	Y	-	Y	-	Y	-	Y	-	-	-	-
Spirit Lake-IL	Spirit Lake	-	-	-	-	-	-	-	-	-	-	1	1	1
St. Lawrence River	St. Lawrence	Y	-	-	Y	Y	-	-	-	-	-	-	1	-
Tiger musky	Introduced	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5. Continued.

Population	Broodstock	Management application [1/]										Disease resistance [4,5/]		
		Hybrid crosses	Culture type [2/]		Supplementation [3/]		Restoration [3/]		Fishery type					
			I	E	R	L	R	L	Tailwaters	Eutrophic	Oligotrophic	BGD	COL	COS
Wisconsin	Wisconsin-W	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern pike														
Aleknagik Lake	Aleknagik Lake	-	-	-	-	-	-	-	-	-	-	-	-	-
Arizona	Arizona	-	-	-	-	-	-	-	-	-	-	-	-	-
Connecticut River	Connecticut	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-
Mansfield Hollow Reservoir	Mansfield Hollow	-	-	-	-	-	-	-	-	Y	-			
Mississippi River	Mississippi	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-
Northern Idaho	Northern Idaho -W	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Lake	Red Lake	-	-	Y	-	Y	-	Y	-	Y	-	-	-	-
Spring Lake -IL	Spring Lake	-	-	-	-	-	-	-	-	-	-	2	2	2
Taal Lake	Taal Lake - H	-	Y	Y	-	-	-	-	-	-	-	-	-	-
Wyoming	Introduced	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5. Continued.

Population	Broodstock	Management application [1/]												
		Hybrid crosses	Culture type [2/]		Supplementation [3/]		Restoration [3/]		Fishery type			Disease resistance [4,5/]		
			I	E	R	L	R	L	Tailwaters	Eutrophic	Oligotrophic	BGD	COL	COS
Sauger														
Arkansas River	ARSAUG	-	-	-	Y	-	Y	-	-	-	-	-	-	-
French Broad	Douglas TW	-	-	Y	Y	-	-	-	-	-	-	-	-	--
Illinois River	Illinois R.	-	-	-	Y	-	Y	-	Y	-	-	-	-	-
Illinois River	Illinois River-W	Y	-	-	Y	-	Y	-	-	Y	-	-	-	-
Mississippi River	Mississippi	-	-	-	-	-	Y	-	Y	-	-	-	-	-
Tennessee River	Tennessee River	-	-	Y	Y	-	-	-	-	-	-	-	-	-
Walleye														
Arizona	Arizona - W	-	-	-	-	-	-	-	-	-	-	-	-	-
Black River	Black River - W	-	-	Y	Y	-	Y	-	-	-	-	-	-	-
Bonnie Reservoir-CO	Bonnie Reservoir	-	-	-	-	-	-	-	-	-	Y	-	-	-
Bull Shoals Reservoir	Bull Shoals - W	-	-	Y	-	Y	-	-	-	Y	-	-	-	-
Center Hill Lake	Center Hill	-	-	Y	Y	-	-	-	-	-	-	-	-	-
Chain-o-Lakes	Chain-o-Lakes-W	-	Y	Y	-	Y	-	-	-	Y	-	-	-	-
Dale Hollow Lake	Dale Hollow	-	-	Y	Y	-	-	-	-	-	-	-	-	-

Table 5. Continued.

Population	Broodstock	Management application [1/]										Disease resistance [4,5/]		
		Hybrid crosses	Culture type [2/]		Supplementation [3/]		Restoration [3/]		Fishery type					
			I	E	R	L	R	L	Tailwaters	Eutrophic	Oligotrophic	BGD	COL	COS
Fox Chain	Fox Chain-W	-	-	-	-	Y	-	-	-	Y	-	-	-	-
Gulf Coast	Gulf Coast	-	-	-	-	Y	-	-	-	-	-	-	-	-
Inland Walleye	Inland Walleye	-	-	Y	-	Y	-	-	Y	Y	-	-	-	-
Lake Burton	Lake Burton - W	-	-	-	-	Y	-	-	-	-	Y	-	-	-
Lake Erie	Lake Erie	-	-	-	-	Y	-	Y	-	Y	-	-	-	-
Lake James	Catawba River - W	-	-	-	-	Y	-	-	-	-	-	-	-	-
Lake Meredith	Lake Meredith	-	-	-	-	-	-	-	-	-	Y	-	-	-
Lake Nottely	Lake Nottely - W	-	-	-	-	-	-	Y	-	-	-	-	-	-
Lake Oahe	Lake Oahe Wae	-	-	-	-	Y	-	-	-	-	-	-	-	-
Lake of the Ozarks	Ozarks	-	-	-	-	-	-	-	-	-	-	-	2	-
Lake Pymatuning	Great Lakes	-	-	-	N	Y	N	Y	N	-	Y	-	-	-
Liberty Resevoir	Liberty	-	-	-	-	-	-	-	-	-	-	-	-	-
Missisquoi River	Missisquoi	-	-	-	-	-	-	-	-	-	-	-	-	-
New York	CanWal	Y	Y	Y	-	-	-	-	Y	Y	-	-	-	-
Norfork River	Norfork - W	-	Y	Y	-	Y	-	-	-	Y	-	-	-	-

Table 5. Continued.

Population	Broodstock	Management application [1/]										Disease resistance [4,5/]		
		Hybrid crosses	Culture type [2/]		Supplementation [3/]		Restoration [3/]		Fishery type					
			I	E	R	L	R	L	Tail-waters	Eutrophic	Oligotrophic	BGD	COL	COS
Norris Lake	Norris - W	-	-	Y	Y	-	-	-	-	-	-	-	-	-
Oneida Lake	Oneida Lake	-	Y	Y	-	Y	Y	Y	-	Y	N	-	-	-
Potomac River	Potomac	-	-	-	Y	-	-	-	-	-	-	-	-	-
Prettyboy Reservoir	Prettyboy	-	-	-	-	Y	-	-	-	-	-	-	-	-
Stockton Reservoir	Stockton -W	-	-	-	-	-	-	-	-	-	-	-	-	-
Winooski River	Winooski	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyoming	Introduced fish	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellow perch														
Arizona	Arizona - W	-	-	-	-	-	-	-	-	-	-	-	-	-
Buttner	Brockport University	-	-	Y	-	Y	-	Y	-	-	-	-	-	-
Chesapeake Bay	Chesapeake Bay	-	-	-	Y	-	N	-	-	-	-	-	-	-
Idaho	Idaho - W	-	-	-	-	-	-	-	-	-	-	-	-	-
Piney Run Reservoir	Piney Run	-	-	-	-	-	-	-	-	Y	-	-	-	-
St. Marys	St. Marys	-	-	Y	-	Y	-	Y	-	Y	-	-	-	-
Wyoming	Introduced	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5 Continued.

Population	Broodstock	Management application [1/]									Disease resistance [4,5/]		
		Hybrid crosses	Culture type [2/]		Supplem-entation [3/]		Restor-ation [3/]		Fishery type				
									Tail-waters	Eutro-phic	Oligot-rophic		
			I	E	R	L	R	L				BGD	COL	COS

[1/] Application use codes are: Y = Yes, broodstock has been used with "good" results for this application, N = No, broodstock has not been used with "good" results for this application, and --- = Unknown or no information reported.
[2/] Culture type codes are: I = Intensive culture and E = Extensive culture
[3/] Management application codes. R = Riverine fisheries and L = Lacustrine fisheries
[4/] Diseases and acronyms, BGD = Bacterial Gill Disease, COL = Columnaris, and COS = Costia.
[5/] Disease resistance (relative rating) codes are: 0 =Unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant.

Appendix A. **National Fish Strain Registry - Perch/pike (NFSR-PP): Survey of strains, populations and broodstocks --- A survey (blank form) for database users, cooperators and clients to submit new information on Percidae and Esosidae populations / broodstocks (wild, captive or domestic) for inclusion in NFSR-PP. Form may be duplicated locally.**

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

---------- INSTRUCTIONS ----------

This record is designed to collect information on wild populations and cultured strains/ broodstocks managed by fisheries agencies or cultured by commercial growers. Species included in the NFSR-PP and for which information is requested are:

Scientific name	Common name	Scientific name	Common name
Family: Percidae - perches		Family: Esocidae - pikes	
Perca flavescens	Yellow perch	*Esox lucius*	Northern pike
Stizostedion canadense	Sauger	*Esox masquinongy*	Muskellunge
Stizostedion vitreum	Walleye	*Esox niger*	Chain pickerel
** Plus other managed species used as pure populations or as species hybrids			

The report is composed of four sections: Section 1 (Strain/broodstock identification and reporting person information) must be completed by each cooperator to allow information to be assigned to the correct strain/broodstock within the database. Also, space is given at the bottom of Section 1 for the name, address and telephone number of up to three additional persons you feel could provide information on the management, culture, performance, or genetic characteristics of this strain/broodstock. Sections 2 - 4, request specific information on broodstock, culture, and post-stocking management and performance characteristics of the particular strain/broodstock:

1. Section 2 (Broodstock Information) - Broodstock origin, reproductive traits, handling, genetic characterization, disease rating, egg/fish availability etc.
2. Section 3 (Hatchery/Captive Fish Production) - Hatchery/culture rearing information, relative handling characteristics, production objectives, survival, relative disease resistance.
3. Section 4 (Post-stocking Field Performance) - Current management applications used and relative performance in management situations.

Complete all questions for which information is available. Leave blank those questions where information is not available or are not applicable to your situation. NOTE: A separate record is completed for each strain, population, or broodstock reported to the NFSR-PP. If you have questions about particular survey questions or how to record certain information, contact one of the following persons:

NAME	PHONE	FAX	E-MAIL
Harold L. Kincaid	570-724-3322 ext 232	570-724-2525	hkincaid@usgs.gov
Leslie J. Mengel	570-724-3322 ext 236	570-724-2525	ljmengel@usgs.gov

Mail completed records to: Dr. Harold L. Kincaid
USGS, BRD, R&D Laboratory
R.D. 4, Box 63
Wellsboro, PA 16901

The NFSR-SB is a dynamic database capable of continuous updating to insure that information is current. Your assistance in providing the requested information is essential for future NFSR-SB releases to be complete and as up-to date as possible. Thank you

Record no.(to be assigned) _____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 1, Strain/broodstock identification and reporting person information

1. Species: _____

2. Strain name (name of hatchery or water body where fish originated): _____

3. Broodstock name (name used by managing agency to identify this group of fish): _____

4. Identify a contact person for your organization we can contact in the future to obtain additional information about this broodstock and to clarify questions.

Name: _____ Title: _____

Address: _____ E-mail: _____

City:_____ State:_____ Zip code:_____ Phone No. (_____)_____ FAX No. (_____)_____

5. Identify publications or in-house reports that describe characteristics of this strain, population or broodstock (origin, life history, reproduction, genetic traits, cultural performance, habitat preferences in natural fishery, etc), and a source where copies can be obtained. Publications and reports received will be added to the Research and Development Laboratory library and made available for use by cooperators and clients seeking broodstock information.

AUTHOR	DATE	TITLE	PUBLISHED BY
a.			
b.			
c.			

6. Identify additional individuals who have experience with this strain, population, or broodstock and can provide additional information such as: it's origin, reproduction, life history, genetic traits, cultural performance or post-stocking success in different management situations. (NOTE: These individuals will be contacted to provide further information).

Contact #1: Name: _____ Title: _____

Address: _____ E-mail: _____

City:_____ State:_____ Zip code:_____ Phone No. (_____)_____ FAX No. (_____)_____

Contact #2: Name: _____ Title: _____

Address: _____ E-mail: _____

City:_____ State:_____ Zip code:_____ Phone No. (_____)_____ FAX No. (_____)_____

Contact # 3: Name: _____ Title: _____

Address: _____ E-mail: _____

City:_____ State:_____ Zip code:_____ Phone No. (_____)_____ FAX No. (_____)_____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 2, Broodstock Information

7. Source where the original broodstock was obtained (if wild, name of water body or drainage: if cultured, name of hatchery or farm)?

Name: _____

8. Current location of broodstock (if wild, name of water body or drainage: if cultured, name of hatchery or farm)?

Name: _____

9. Have fish from different sources (ponds, lakes, drainages, etc.) been introduced into this population during the past 10 years? (CIRCLE ONE)

a. YES b. NO c. Unknown

d. If YES, identify introductions below:

Introduction Information	Introduction 1	2	3
Name of source	_____	_____	_____
Year	_____	_____	_____
Number stocked	_____	_____	_____
Life stage	_____	_____	_____

Enter added introduction information in Quest. # 21

10. Has a captive broodstock (fish are cultured throughout the year) been started?

a. YES b. NO **(IF NO, GO TO QUESTION # 15)**

11. Cultured broodstock information:

a. Year when broodstock was started? (YEAR) _____

b. Cultured broodstock was started with the introduction of what life stage? (CIRCLE ONE)

1) Eggs 2) Fingerlings 3) Sub-adults 4) Adults

c. How many brood fish actually contributed progeny to establish the initial cultured broodstock?

No. males _____ No. females _____

12. Describe breeding system used to maintain this broodstock (i.e., random mating, selection system, hybridization, etc.).

_____

_____

13. Are special selection criteria used to choose individual brood fish for mating ? (CIRCLE ONE)

a. YES b. NO (if NO, go to question 14)

c. Males and females are chosen for spawning based on which of the following traits? (CIRCLE ALL APPROPRIATE RESPONSES):

1) Random among fish mature on given spawning date

2) Body color 3) Body weight

4) Body length 5) Body conformation

6) Spawning age (yrs) 7) Early/late in spawn season

8) Other criteria (list trait(s)):

a) _____

b) _____

c) _____

d. Describe the selection system used to pair brood fish?

_____

_____

_____

14. Current inventory of fish held in captive culture for future broodstock needs. List year-classes separately (youngest to oldest). When sex of fish is unknown, record information assuming a 50/50 sex ratio.

Year spawned	Number fish on hand Male/Female	Mean fish weight (kg) Male/Female	Number of parents Male/Female
1 _____	_____/_____	_____/_____	_____/_____
2 _____	_____/_____	_____/_____	_____/_____
3 _____	_____/_____	_____/_____	_____/_____

15. Spawning method used? (CIRCLE ALL APPLICABLE RESPONSES)

a. Open pond b. Tank/aquarium

d. Hand strip e. Other _____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 2, Broodstock information

16. Male-to-female ratio (M/F) used in spawning operation? (e.g., 1 male per female, 2 males per female, 3 males per 2 females).

a. Number male(s) ____ per number female(s) ____

b. is the same male used with multiple females? (**CIRCLE**)

1) YES 2) NO

3) if YES, each male is used with how many females? _____ (Approximate)

c. Is the same female used with multiple males? (**CIRCLE**)

1) YES 2) NO

3) if YES, each female is use with how many males? _____ (Approximate)

d. If multiple males are used per female, are males used: (**CIRCLE ONE**)

1) Sequentially -- one male used, then a second, etc.,

2) Simultaneously -- milt from all makes are added at the same time

3) Polled milt -- males spawned first and milt placed into a single pool that is used to fertilize eggs.

17. Are fish artificially induced to spawn? (**CIRCLE**)

a. YES b. NO c. UNKNOWN

d. If YES, the method used was? (CIRCLE ONE FOR EACH SEX)

MALES	FEMALES
1) Light control	1) Light control
2) Injections	2) Injections
3) Temperature	3) Temperature
4) Other _____	4) Other _____

e. If injections are used, complete the following:

	MALES	FEMALES
Initial injection hormone	_____	_____
Initial Injection dose (mg/Kg)	_____	_____
Second injection hormone	_____	_____
Second Injection dose (mg/Kg)	_____	_____

18. Summary of broodstock reproductive characteristics (INCLUDE WILD AND CULTURED POPULATIONS)

Traits	Males	Females
Domestic and wild broodstocks		
a. Spawning period (month/day)	_____	_____
b. Start spawning at what temperature (degrees Centigrade)	_____	_____
c. Earliest age (yrs) first mature	_____	_____
d. Average age (yrs) first mature	_____	_____
e. Mean fecundity at first maturity	_____	_____
f. Eggs per kilogram of fish weight (mean)	_____	_____
g. Mean weight at first maturity (Kg)	_____	_____
h. Mean length at first maturity (cm)	_____	_____
i. Period between spawning cycles (yrs)	_____	_____
j. Life expectancy or longevity (yrs)	_____	_____

Wild broodstocks

k. Spawning type (**CIRCLE ONE**)

1) Riverine 2) Lacustrine 3) unknown

l. Spawning substrate where "successful" reproduction has occurred (Describe)

1) Vegetation (type /species) _____

2) Gravel (size) _____

3) Rubble _____

4) Water velocity (meters/sec) _____

5) Water temperature (C°) _____

6) Water depth (meters) _____

7) Other traits (describe) _____

m. Estimates population size: No. males _____

No. females _____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 2, Broodstock information

19. Are fish from this broodstock available to other organizations (federal, state, and private sectors) for purposes of starting new broodstocks or conducting strain evaluation trials? (CIRCLE ONE)

a. YES b. NO c. Limited**
****Limited means available under certain conditions.**

***** If NO, go to question 20 *****

d. What life stages are available?
(CIRCLE ALL APPLICABLE RESPONSES)

1) Eggs 2) Fry 3) Fingerlings 4) Adults

e. Can fish/eggs be purchased? (CIRCLE ONE)

1) YES 2) NO

20. Has genetic characterization been done on this population/ broodstock i.e., allozyme analysis or DNA analysis? (CIRCLE ONE)

a. YES b. NO c. UNKNOWN

d. If YES, identify:

1) Type of characterization? (CIRCLE ALL APPROPRIATE RESPONSES)

a) Allozyme analysis b) Mitochondrial DNA

c) Nuclear DNA d) Other _____

2) Characterization was done by?

(person or laboratory) _____

3) Date characterization was done?

(month/year) _____

4) Are copies of the report or publication available? (CIRCLE ONE)

a) YES b) NO c) UNKNOWN

d) IF YES, address where copies can be obtained?

_____

_____

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21. List any additional information (characteristics, traits, life history, etc.) about this broodstock, you feel would be useful to potential users

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National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 3, Hatchery/captive fish production

22. Source of eggs or fish (if wild, name of water body or drainage: if cultured, name of hatchery or farm) evaluated in this production report?

Name _____

23. Production facility (name of hatchery or farm) where fish were reared?

Name _____

24. Information reported here are from production year-class(es)?

a. If single year-class, enter the year: _____

b. If multiple year-classes, enter the interval:

Beginning (yr) _____ to End (yr) _____

25. Type of production (**CIRCLE ONE**)

a. Extensive b. Intensive c. both extensive and intensive

26. Type of production rearing units used? (**CIRCLE ALL APPLICABLE RESPONSES**).

a. Ponds b. Tanks c. Raceways

d. Aquariums e.. Cages

f. Other _____

27. Life stage at which fish were stocked or marketed? (**CIRCLE ALL APPLICABLE RESPONSES**)

a. Egg b. Fry

c. Fingerling (< 2 inches) d. Fingerling (> 2 inches)

e. Sub-adult f. Adult

28. Type of water source(s) used to rear these fish? (**CIRCLE ALL APPLICABLE RESPONSES**)

a. Surface b. Well c. Spring

d. Reconditioned/ Recirculated

e. Town/urban processed

f. Other _____

29. Water quality parameters

a. Temperature (mean) (DATA IS IN ° F or °C? (**CIRCLE ONE**)

January _____	May _____	September _____
February _____	June _____	October _____
March _____	July _____	November _____
April _____	August _____	December _____

Water characteristics	Mean	High	Low
b. pH	_____	_____	_____
c. Total hardness ($CaCO_3$)	_____	_____	_____
d. Alkalinity (mg/l of $CaCO_3$)	_____	_____	_____
e. Dissolved oxygen (mg/l)	_____	_____	_____
f . Gas supersaturation	_____	_____	_____

30. Feed type and feeding methods used at each life stage? (Record feed type, feed size, and feed method for each life stage):

Fry
Feed type _____
Feed size _____
Feeding method _____

Fingerling
Feed type _____
Feed size _____
Feeding method _____

Sub-adult
Feed type _____
Feed size _____
Feeding method _____

Adult
Feed type _____
Feed size _____
Feeding method _____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 3, Hatchery/ captive fish production

31. Fish were produced for what management programs? **(CIRCLE ALL APPLICABLE RESPONSES)**

a. Recreational fishery (managed waters - ponds, lakes, impoundments, etc.)

b. Natural fishery (natural stream, pond, lake, etc.)

c. Establish new fishery

d. Restore threatened/endangered species

e. Commercial agriculture -- sale for food fish

f. Commercial agriculture -- sale for stocking streams, ponds, lakes, impoundments, etc.

32. Do fish require special consideration during handling and transport (beyond that of other populations of the same species)? **(CIRCLE ONE)**

a. YES b. NO

c. If YES, list special handling requirements:

1) _____

2) _____

3) _____

33. Growth, survival, and feed conversion during production from hatch to stocking or market. Record mean for each trait.

Traits	Mean
a. % hatch (green egg to hatch)	_____
b. % fry survival (hatch to first feeding stage)	_____
c. % fry survival (first feeding to 90 d on feed)	_____
d. Mean fish weight (grams) at 90 d on feed	_____
e. Mean fish length (mm) at 90 d on feed	_____
f. Mean fish weight (grams) at 1-year	_____
g. Mean fish length (mm) at 1-year	_____
h. Age stocked (months of age)	_____
i. Feed conversion from first feed to stocking	_____

34. Tolerance to stress -- Based on your experience working with other strains or populations of this species, rate the relative tolerance of these fish to each stress category below using the scale: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, 5 = superior.

Type of stress	relative stress tolerance
a. Handling stress -- swim-up to 2 inches	_____
b. Handling stress -- 2 inches to 1 yr	_____
c. Handling stress -- adults during spawning period	_____
d. Tolerance to crowding	_____
e. Tolerance to temperature fluctuation	_____
f. Tolerance to crowding during transport	_____

35. Disease resistance-- Based on your experience working with other populations and strains, rate the relative resistance of these fish for diseases experienced during culture using the scale: 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, 5 = very resistant.

Disease/ health problem	Relative Disease resistance
a. _____	.. _____
b. _____	.. _____
c. _____	.. _____
d. _____	.. _____
e. _____	.. _____

National Fish Strain Registry - Perch/Pike (NFSR-PP)
Survey of strains, populations and broodstocks

SECTION 4, Post-stocking field performance information

36. Name of hatchery/ culture facility where fish were reared _____

37. Post-stocking field performance characteristics: Based on your experience with other strains or populations of this species, rate the relative performance of these fish when stocked in the five management types below for the following traits using the scale: 0 = Unknown, 1 = Poor, 2 = Below average, 3 = Average, 4 = Above average, and 5 = Superior. **Mark only those management situations where progeny from this population were stocked.)**

Trait	Relative rating				
	Stream	River	Pond/impoundments (acres)		
			< 10 A	10 - 100 A	> 100 A
a. Survival after stocking	_____	_____	_____	_____	_____
b. Growth after stocking	_____	_____	_____	_____	_____
c. Susceptibility to angling	_____	_____	_____	_____	_____
d. Tolerance to water temperature (> 80^0 F	_____	_____	_____	_____	_____
e. Tolerance to low pH levels (<5.0)	_____	_____	_____	_____	_____
f. Fish survival into 2nd fishing season	_____	_____	_____	_____	_____
g. Tendency to migrate	_____	_____	_____	_____	_____
h. Tolerance to catch and release	_____	_____	_____	_____	_____
i. Other traits measured: (1)_____	_____	_____	_____	_____	_____
: (2)_____	_____	_____	_____	_____	_____

38. Identify management applications for which you feel this population/ strain is "well" adapted or "poorly" adapted by placing an "X" in one or more boxes of each column. Where unsure or have limited experience, leave the application blank.

Management Applications	"Well" adapted	"Poorly" adapted
a. Supplement riverine populations	_____	_____
b. Supplement lacustrine populations	_____	_____
c. Restore riverine populations	_____	_____
d. Restore lacustrine populations	_____	_____
e. Tail waters	_____	_____
f. Eutrophic lakes	_____	_____
g. Oligotrophic lakes	_____	_____
h. Production of hybrids	_____	_____
i. Intensive culture	_____	_____
j. Extensive culture	_____	_____
k. Other (_____)	_____	_____

39. Does this fish have special habitat preference (relative to other populations of the same species) ? (CIRCLE ONE)

a. YES b. NO c. UNKNOWN

d. If YES, list special habitat preferences:

2) _____

3) _____

40. List any additional information (characteristics, traits, life history, etc.) about this population or stain, you feel would be useful to potential users.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Appendix B. National survey of Percidae and Esocidae populations: new population / broodstock recommendation form. --- Recommendation form used by fisheries personnel to identify new perch and pike populations / broodstocks (wild, captive, or domestic) for inclusion in the database. This form may be reproduced locally.

NATIONAL SURVEY OF PERCIDAE and ESOCIDAE POPULATIONS

New population / broodstock recommendation form

1. Species _____

2. Population / broodstock name _____
(usually name of water body, drainage, of hatchery where fish originated)

3. Broodstock name _____
(usually the name used by management to identify this group of fish)

4. Contact person who can provide performance information and clarify future questions.

Name: _____ Title: _____

Agency/organization: _____ Address: _____

City:_____ State:_____ Zip code:_____ Phone No. (___)_____

FAX No. (___)_____ E-mail _____

5. Recommended by: Name: _____ Title: _____

Agency/organization: _____ Address: _____

City:_____ State:_____ Zip code:_____ Phone No. (___)_____

FAX No. (___)_____ E-mail _____

***** INSTRUCTIONS *****

The National Fish Strain Registry - Perch and Pike (NFSR-PP) is designed to collect a standard set of information on known populations / broodstocks (wild, captive, and domestic) of the following Percidae and Esocidae species:

Scientific name	Common name	Scientific name	Common name
Perca flavescens	**Yellow perch**	***Esox lucius***	**Northern pike**
Stizostedion canadense	**Sauger**	***Esox masquinongy***	**Muskellunge**
Stizostedion vitreum	**Walleye**	***Esox niger***	**Chain pickerel**

If you are aware of one or more populations or broodstocks not currently included in the NFSR-PP, you may identify those populations using this form. You will need to include the name of one or more person(s) who can provide information on each population identified. We will contact the person(s) you identify to obtain the necessary information on each recommended broodstock and include that population in future NFSR-PP releases. Please use a separate form for each population recommended. Mail completed recommendations to:

Dr. Harold L. Kincaid
USGS, Northern Appalachian Research Laboratory
R.R.4, Box 63
Wellsboro, PA 16901

Your assistance in providing the requested information is essential for us to make future releases as complete as possible. Your assistance is appreciated.

Thank you

DATE DUE

U.S. Geological Survey
Leetown Science Center
Northern Appalachian Research Laboratory
RD #4, Box 63
Wellsboro, PA 16901